REMARKS

Claims 1-6 are pending in this present application. In the January 22, 2009 Non- Final Office Action, the Examiner:

1. Objected to claim 5 because of the following informalities: word "via the loudspeaker is repeated;"
2. Rejected claim 2 under 35 U.S.C. §112 because the limitation "each of *the digital filter*" lacks antecedent basis;
3. Rejected claim 3 under 35 U.S.C. §112 because the limitation "the input impedance of the AID converter and the output amplifier" lacks antecedent basis;
4. Rejected claim 3 under 35 U.S.C. §112 because the limitation "originates the measurement" lacks antecedent basis;
5. Rejected claims 1-2, 5-6 under 35 U.S.C. § 103(a) as being unpatentable over Pla et al. (5,402,669) and Chau (5,305,307); and
6. Rejected claims 3-4 under 35 U.S.C.§103(a) as being unpatentable over Pla et al. (5,402,669) and Chau (5,305,307) and further in view of Shuttleworth (2002/0071568A1) and Flentje (2002/0048379A1).

Applicant has amended claims 2, 3, and 5 to address matters of form and to correct various grammatical and typographical errors. Applicant respectfully submits that no new matter has been added. As to the rejections, Applicant traverses.

I. OBJECTION TO CLAIM 5

The Examiner objected to claim 5 because of the following informalities: word "via the loudspeaker is repeated" wherein "emitting predetermined signal *via the loudspeaker via the loudspeaker*". Applicant has amended claim 5 by deleting the extra phrase "via the loudspeaker."

II. REJECTION OF CLAIM 2 AND 3 UNDER 35 U.S.C. §112

The Examiner rejected claim 2 under 35 U.S.C. §112 stating that the limitation "each of the digital filter" lacks antecedent basis. The Examiner rejected claim 3 under 35 U.S.C. §112 stating that the limitation "the input impedance of the AID converter and the output amplifier" lacks antecedent basis. The Examiner also rejected claim 3 under 35 U.S.C. §112 stating that the limitation "originates the measurement" lacks antecedent basis. Applicants have amended claims 2 and 3 as suggested by the Examiner.

III. REJECTION OF INDEPENDENT CLAIMS 1, 2 AND 5 UNDER 35 U.S.C. §103(a)

The Examiner rejected claims 1, 2, and 5 under 35 U.S.C. § 103(a) as being unpatentable over Pla et al. (5,402,669) and Chau (5,305,307). In a previous office action, the Examiner rejected independent claims 1 and 5 as anticipated by Pla and claim 2 as obvious over Pla. *See* September 9, 2008 Final Office Action. Applicants responded noting that the Examiner's analysis under § 102(b) improperly interprets claim limitations individually, in isolation, failing to consider the context in which the terms are used in the claim; and that the Examiner's § 103(a) analysis also ignores what the references actually teach. *See* January 8, 2009 Response to Final Office Action. Applicants respectfully submit that the Examiner has made the same mistakes in the January 22, 2009 Non-Final Office Action.

A. Independent Claim 1

In the January 8, 2009 Response to Final Office Action, Applicants argued that Pla does not teach the "loudspeaker emitting a predetermined noise signal." In the January 22, 2009 Non-Final Office Action, the Examiner failed to respond to any of Applicants' arguments. Yet, in rejecting claim 1, the Examiner stated:

> Re claim 1, Pla et al. disclose of the Array microphone with several individual microphones connected with a signal processor that comprises at least one digital filter for each individual microphone, in particular for voice recognition (fig. 2 wt (38,40,48,50), col. 3 line 45-65)), at least one loudspeaker is provided, which is arranged in the acquisition range of each of the individual microphones (fig. 2 wt (20)); col. 3 lines 35-40)), an electronic circuit configured to apply signal to the loudspeaker to emit a predetermined noise signal (fig. 2 wt (24,26,28), col. 3 line 5-10; col. 3 line 1-10; col. 2 line 45-65/to emit pure tone signal and thus infer predetermined of the noise signal)).

January 22, 2009 Non-Final Office Action, pg. 3 (emphasis added).

The Examiner also stated that "Pla et al. fail to disclose of the signal specific wherein the loudspeaker to emit periodic signal." The Examiner does not however explain how Pla can disclose "an electronic circuit configured to apply signal to the loudspeaker to emit a predetermined noise signal" but "fail to disclose of the signal specific wherein the loudspeaker to emit periodic signal." (sic).

Applicants respectfully submit that the Examiner's reliance on Pla is misplaced. Pla teaches matching an unmatched microphone to a reference microphone. The reference microphone pickups a reference signal emitted by a loudspeaker connected to the sound source, which is a signal generator. Pla 2:47. Pla teaches generating the tone signal to be picked up by the reference microphone and by unmatched microphones for purposes of matching the unmatched microphones to the reference microphone. Pla also teaches performing the matching in a housing (element 18 in FIGs. 1 and 2). Pla teaches matching sensors for operation in a variety of applications. *See* Pla 1:10-42. Pla does not teach calibrating any array microphones in the location of intended use. Applicants have amended claim 1 to specifically recite that the microphones are installed in their location of intended use.

The Examiner also erred in combining Pla with Chu to find claim 1 obvious. The Examiner stated that "taking the combined teaching of Pla et al. and Chau (sic) as a whole, it would have been obvious for one of the ordinary skill in the art to have modified Pla et al. with the loudspeaker to emit periodic signal for actively compensating for changing room condition which adapt the adaptive filters of sensor accordingly." Applicants respectfully submit that the Examiner erred because 1) Chu does not teach what the Examiner alleges, and 2) Pla and Chu are not combinable.

1. Chu does not teach what the Examiner alleges.

Chu teaches an "echo cancelling device for reducing acoustic feedback between a loudspeaker and microphone in a full duplex communication system." Chu, Abstract. Chu addresses a problem where a loudspeaker generates sound that is picked up by a nearby microphone, which is communicated to the receiver at the other end of the communication system. A listener at the other end would experience such sound as annoying echoes.

The Examiner states that "Chau (sic) disclose of a signal wherein the loudspeaker to emit periodic signal (fig. 1-3; col. 10 line 30-35/loudspeaker with mic and adaptive filter)." As an initial matter, the Examiner does not show where Chu teaches a "periodic noise signal" as recited in claim 1. Despite this omission in the Examiner's analysis, Chu is inapposite to the analysis. The passage cited by the Examiner describes a situation where the microphone picks up a signal emitted by the loudspeaker that is sinusoidal or otherwise, periodic (noting an example of a person whistling). Chu 10:30-35. Chu teaches that such signals may cause divergence of the tap

weights and that whitening filters may be used to discourage such divergence. *Id.* The periodic signal in Chu is a signal that causes the echo that the Chu device is designed to cancel. Chu does not teach a periodic noise signal generated to "evaluate the response signals coming from each of the microphones and/or from each of the digital filters as a response to the reception of the periodic noise signal."

In view of the above, the Examiner's reliance on Chu is misplaced. Independent claim 1 is allowable.

2. Pla and Chu are not combinable.

The Examiner summarily states that "taking the combined teaching of Pla et al. and Chau as a whole, it would have been obvious for one of the ordinary skill in the art to have modified Pla et al. with the loudspeaker to emit periodic signal for actively compensating for changing room condition which adapt the adaptive filters of sensor accordingly." Applicants respectfully submit that the Examiner cannot rely on "taking the combined teachings … as a whole" as a substitute for a rigorous analysis giving reasons why one of ordinary skill in the art would have made the asserted combination. Applicants respectfully submit that there is no reason.

First, one of ordinary skill in the art would not have modified Pla with the Chu loudspeakers to "emit periodic signal for actively compensating for changing room condition which adapt the adaptive filters of sensor accordingly." Chu teaches this without any combination with Pla. *See* Chu 2:22-27. Furthermore, Chu does not teach a "periodic noise signal" as recited in claim 1 as noted above. Pla also teaches measurements in a housing thereby teaching away from "compensating for changing room condition."

Second, combining Pla with Chu makes no sense. The Examiner states:

> The combined teaching of Pla et al. and Chau as a whole, further teach of the signal processor configured to evaluate the response signals coming from each of the microphones and/or from each of the digital filters as a response to the reception of the noise signal and wherein the signal processor is configured to compare signals with model signals stored in the signal processor or externally (fig. 2, col. 1 line 25-40; col. 3 line 25-34 & col. 4 line 17-30 & line 38-48/the output at each filter equal to the output at processor within a predetermined stored value).

Again, Applicants respectfully submit that the Examiner is relying on the phrase "combined teaching … as a whole…" as a substitute for rigorous analysis. It is also unclear whether the citations in the Examiner's assertion are to Pla or Chu. Nevertheless, the combination is illogical. Pla teaches methods and apparatuses for matching sensors in a housing. Chu teaches echo cancelling devices to eliminate acoustic feedback in communications systems. Given such wildly divergent applications, one of ordinary skill in the art would have little reason to combine Pla and Chu. This is evident in the Examiner's thin and conclusory analysis. The Examiner fails to:

1. identify any response signals in either Pla or Chu,
2. identify the noise signal in either Pla or Chu,
3. identify the model signals in either Pla or Chu, or
4. identify what is evaluated with respect to the response signals, or what is compared between the response signals and the model signals.

Applicants respectfully submit that the Examiner alleges a combination of Pla and Chu that cannot be supported. Claim 1 is therefore allowable.

B. Independent Claim 2

In rejecting claim 2, the Examiner relied on the analysis applied to rejecting claim 1. Applicants respectfully submit that the Examiner's analysis in rejecting claim 2 is defective for the same reasons stated above for claim 1.

C. Independent Claim 5

In rejecting claim 5, the Examiner again relied on the combination of Pla and Chu. However, as noted above, Pla is inapposite because Pla teaches matching sensors in a housing. Pla does not teach calibrating microphones in their location of intended use. In addition, the combination of Pla and Chu is improper as discussed above with reference to the rejection of claim 1.

IV. Rejection Of Dependent Claims

Independent claims 1, 2, and 5 are allowable. Claims 3-6 depend from claims 1-2. Claims 3, 4 and 6 are therefore allowable as well.

V. NEW CLAIMS

Applicants have added new claims 7-11 relating to a test device. Applicants respectfully submit that no new matter is being added because a test device is disclosed in the specification on page 8, lines 16-25. Applicants also respectfully submit that claims 7-11 are allowable for the same reasons as claims 1-6.

CONCLUSION

Favorable consideration is respectfully requested in view of the foregoing amendments and remarks.

The Commissioner is authorized to charge any additional fees that may be required, or credit any overpayment to our deposit Account No. 50-2542. A copy of this sheet is enclosed.

Respectfully submitted,

Dated: June 22, 2009

Jennifer H. Hamilton
The Eclipse Group LLP
10605 Balboa Blvd., Suite 300
Granada Hills, CA 91344
(818) 488-8141 Telephone
(818) 332-4205 Fax
jhh@eclipsegrp.com

Customer No.: **34408**